AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): An automatic focusing apparatus comprising:

~~a focus lens drive device which drives a focus lens for making focus adjustment of an object image;~~

a photoelectric conversion device which converts an object image formed by ~~said~~ a focus lens, which is used to make focus adjustment of an object image, into an electrical signal;

an extraction device which extracts a signal that corresponds to a high-frequency component of a luminance signal of an object from an output signal of said photoelectric conversion device; and

a control device which makes a scan operation that stores outputs from said extraction device at ~~respective step~~ predetermined positions while driving said focus lens ~~in predetermined steps within a focusing range~~, and extracts a ~~first~~ peak position ~~corresponding to~~ where the stored ~~outputs~~ output of said extraction device become maximum value, and ~~driving~~ drives said focus lens to the ~~first~~ peak position obtained by the scan operation,

wherein said control device changes the number of times of the scan operation in accordance with a state of an instruction device which instructs to start a photographing operation.

Claim 2 (Original): The apparatus according to claim 1, wherein when the state of the instruction device designates start of the photographing operation, the number of times of the scan operation is set to be smaller than the number of times of the scan operation when the state of the instruction device does not designate start of the photographing operation.

Claim 3 (Currently Amended): The apparatus according to claim 1, wherein ~~the step~~ an interval between the predetermined positions is changed in correspondence with the state of the instruction device.

Claim 4 (Currently Amended): The apparatus according to claim 3, wherein when the state of the instruction device designates start of the photographing operation, the step interval is set to be smaller than the ~~step~~ interval when the state of the instruction device does not designate start of the photographing operation.

Claim 5 (Original): The apparatus according to claim 1, wherein the state of the instruction device is detected upon completion of the scan operation, and the number of times of the scan operation is changed in correspondence with the state of the instruction device.

Claim 6 (Original): The apparatus according to claim 5, wherein when the state of the instruction device designates start of the photographing operation, the number of times of the scan operation is set to be smaller than the number of times of the scan operation when the state of the instruction device does not designate start of the photographing operation.

Claim 7 (Original): The apparatus according to claim 1, wherein the state of the instruction device is detected during the scan operation, and the number of times of the scan operation is changed in correspondence with the state of the instruction device.

Claim 8 (Original): The apparatus according to claim 7, wherein when the state of the instruction device designates start of the photographing operation, the number of times of the scan operation is set to be smaller than the number of times of the scan operation when the state of the instruction device does not designate start of the photographing operation.

Claim 9 (Currently Amended): The apparatus according to claim 1, wherein the state of the instruction device is detected during the scan operation, and ~~the step~~ an interval between the predetermined position is changed in correspondence with the state of the instruction device.

Claim 10 (Currently Amended): The apparatus according to claim 9, wherein when the state of the instruction device designates start of the photographing operation, the ~~step~~ interval is set to be smaller than the ~~step~~ interval when the state of the instruction device does not designate start of the photographing operation.

Claim 11 (Original): The apparatus according to claim 1, wherein the state of the instruction device is detected during the scan operation, and the scan operation is ended in correspondence with the state of the instruction device.

Claim 12 (Currently Amended): A ~~method~~ program for making an image recording apparatus execute an automatic focusing process, the image recording apparatus comprising a focus lens used to make focus adjustment of an object image, a focus lens drive device which drives the focus lens, a photoelectric conversion device which converts an object image formed by the focus lens into an electrical signal, an extraction device which extracts a signal that represents a high-frequency component of a luminance signal of an object from an output signal of the photoelectric conversion device, and an instruction device which instructs to start a photographing operation, the program comprising:

making a scan operation that stores outputs from the extraction device at ~~respective step~~ predetermined positions while driving the focus lens ~~in predetermined steps within a focusing range~~, and extracts a ~~first~~ peak position ~~corresponding to~~ where the stored ~~outputs~~ of the extraction device become maximum value, executing a process for driving the focus lens to the ~~first~~ peak position obtained by the scan operation, and changing the number of times of the scan operation in accordance with a state of the instruction device.

Claim 13 (Currently Amended): A computer readable storage medium storing a program ~~actualizes a method of~~ according to claim 12.

Claim 14 (New): An automatic focusing apparatus comprising:

a photoelectric conversion device which converts an object image formed by a focus lens, which is used to make focus adjustment of an object image, into an electrical signal;

an extraction device which extracts a signal that corresponds to a high-frequency component of a luminance signal of an object from an output signal of said photoelectric conversion device;

a first control device which makes a scan operation that stores outputs from said extraction device at predetermined positions while driving said focus lens, and extracts a peak position where the stored output of said extraction device become maximum value, and drives said focus lens to the peak position obtained by the scan operation;

a second control device which drives said focus lens to a position where the output of said extraction device become maximum value in a vicinity of the peak position obtained by said first control device; and

a third control device which changes a control state of said focus lens between a first state in which said focus lens is controlled by said first control device and a second state in which said focus lens is controlled by said second control device, in accordance with a state of an instruction device which instructs to start a photographing operation.

Claim 15 (New): An automatic focusing apparatus comprising:

a photoelectric conversion device which converts an object image formed by a focus lens, which is used to make focus adjustment of an object image, into an electrical signal;

a first control device which drives said focus lens to an in-focus position, where the object image is most precisely focused on said photoelectric conversion device, based on electrical signals which are obtained from said photoelectric conversion device at predetermined positions of said focus lens;

a second control device which drives said focus lens of a position where the object image is more precisely focused on said photoelectric conversion device than said first control device, based on electrical signals which are obtained from said photoelectric conversion device in a vicinity of the in-focus position obtained by said first control device; and

a third control device which changes a control state of said focus lens between a first state in which said focus lens is controlled by said first control device and a second state in which said focus lens is controlled by said second control device, in accordance with a state of an instruction device which instructs to start a photographing operation.

Claim 16 (New): A program for making an image recording apparatus execute an automatic focusing process, the image recording apparatus comprising a focus lens used to make focus adjustment of an object image, a focus lens drive device which drives the focus lens, a photoelectric conversion device which converts an object image formed by the focus lens into an electrical signal, an extraction device which extracts a signal that represents a high-frequency component of a luminance signal of an object from an output signal of the photoelectric conversion device, and an instruction device which instructs to start a photographing operation, the program comprising:

a first control step of making a scan operation that stores outputs from said extraction device at predetermined positions while driving said focus lens, and extracts a peak position where the stored output of said extraction device become maximum value, and drives said focus lens to the peak position obtained by the scan operation;

a second control step of driving said focus lens to a position where the output of said extraction device become maximum value in a vicinity of the peak position obtained by said control device; and

a third control step of obtaining a control state of said focus lens between a first state in which said focus lens is controlled by said first control step and a second state in which said focus lens is controlled by said second control step, in accordance with a state of the instruction device.

Claim 17 (New): A program for making an image recording apparatus execute an automatic focusing process, the image recording apparatus comprising a focus lens used to make focus adjustment of an object image, a focus lens drive device which drives the focus lens, a photoelectric conversion device which converts an object image formed by the focus lens into an electrical signal, and an instruction device which instructs to start a photographing operation, the program comprising:

a first control step of driving said focus lens to an in-focus position, where the object image is most precisely focused on said photoelectric conversion device, based on electrical

signals which are obtained from said photoelectric conversion device at predetermined positions of said focus lens;

a second control step of driving said focus lens to a position where the object image is more precisely focused on said photoelectric conversion device than said first control step, based on electrical signals which are obtained from said photoelectric conversion device in a vicinity of the in-focus position obtained in said first control step; and

a third control step of changing a control state of focus lens between a first state in which said focus lens is controlled by said first control step and a second state in which said focus lens is controlled by said second control step, in accordance with a state of the instruction device.